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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,597	02/22/2002	Brad V. Johnson	NUFO009	5739

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EXAMINER

MENEFEE, JAMES A

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/082,597	Applicant(s) JOHNSON, BRAD V.	
	Examiner James A. Menefee	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2005.
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-36 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/9/2005 has been entered. Claim 16 is amended. Claims 1-36 remain pending.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,788,724 in view of Missey.

'724 appears to clearly claim all of the elements described in the presently claimed invention, including tuning elements, driver, gain medium, reflectors, grid generator,

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hermetically sealed housing, carbon drain, moisture trap, and inert atmosphere. It is not explicitly claimed that the tuning element is an etalon; however claim 22 recites “means for tuning” the laser. This invokes 35 U.S.C. 112 6th par., therefore one must look to the specification to understand the scope of the claims. The laser is tuned using an etalon 26, and therefore an etalon is claimed.

There is not claimed the magnetic coupling and associated magnetic elements. This is taught by Missey with motivation as in the below 103 rejections.

It is noted that the examiner understands that in a double patenting rejection one may not typically use the disclosure as prior art, only the claims. However, in the above patent, the use of means-plus-function limitations brings the structure of the specification, viz. the etalon, into the claims. Since the etalon structure is incorporated into the claims it may be used in the double patenting rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-5, 8-10, 23-24, 27-28, and 31-32, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian (US 6,108,355) in view of Missey.

Independent claims:

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Regarding claims 1, 23, and 35, Zorabedian discloses an optical apparatus comprising tuning etalon 162 positioned in a light beam, and a drive element 160 driving the tuning element so that it translates up and down relative to the beam. It is not disclosed that the drive element is magnetically coupled to the tuning element. Missey teaches that a magnetic actuation may be done to translate an element up and down relative to the beam. Col. 6 lines 12-14. It would have been obvious to one skilled in the art to use the magnetic actuation as an alternative means for translation of the tuning element, as taught by Missey.

Regarding claims 8 and 31, the claims are combinations of the limitations of claims 1 and some of the dependent claims (i.e. claim 24), and thus are taught as shown above and below.

Dependent claims:

Regarding claim 4, and 27, Zorabedian discloses gain medium 102 emitting the beam.

Regarding claims 5, 10, 18, 28 Zorabedian teaches reflector 122 positioned after the tuning element.

Regarding claims 9 and 32 there is taught a drive element and magnetic elements as described below with respect to claim 24.

Regarding claim 24, Missey's translation system does teach a driver 26 for driving the translation. It is not explicitly taught in Missey that magnetic elements are coupled to the element to be translated as well as the driver, with the magnetic actuation being done via the magnetic elements. While Missey describes magnetic actuation very broadly, the specifics are not described. However these specifics would be inherent to the magnetic actuation. The magnetic elements would necessarily be located on the element to be translated, i.e. the tuning element, and on the driver, so that the translated tuning element may actually be translated magnetically.

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There is included a driver to cause the translation, and the element that is actually translated. In order for there to be magnetically actuated translation, there must be an interaction between magnets. Since there is a driver for causing the translation, logically a magnetic element must be coupled to the driver. Since the etalon will be magnetically driven, then logically there must be a magnetic element coupled to the etalon. The etalon itself will not be magnetic, therefore the examiner sees no other explanation for the magnetic actuation to operate. This reasoning appears to be technically sound, and therefore appears to satisfy the reasoning required to show inherency.

Regarding claim 34, the claim is a combination of limitations described above.

Claims 2-3, 7, 12, 15-18, 22, 25-26, 30, 33-34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian and Missey as applied to the claims above, and further in view of Aikiyo (US 6,396,023). Zorabedian and Missey teach the limitations of the claims as in the above rejections, but do not disclose that the device should be hermetically sealed (and as in claims 15 and 22 that the hermetically sealed package contains an inert atmosphere). Aikiyo teaches that a laser device may be hermetically sealed in an inert atmosphere. Col. 2 line 42 – col. 3 line 3. It would have been obvious to one skilled in the art to include the laser in a hermetically sealed package with an inert atmosphere in order to maintain the cleanliness of the package so that organics will be prevented from adhering to the laser, as taught by Aikiyo. While Aikiyo does not specifically refer to external cavity lasers, Aikiyo's teachings are applicable to all lasers, since one skilled in the art would want to avoid the degrading effects of organics regardless of the type of laser used. The teachings are also

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applicable to the parts of a laser, such as the etalon, because such parts could also be affected by degradation due to moisture, organics, and the like.

Claims 13-14 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian, Missey, and Aikiyo as applied to the claims above, and further in view of Bartholomew et al. (US 5,696,785). The limitations of the parent claims are taught as above, but it is not disclosed that there is a carbon drain or moisture trap in the package. Bartholomew teaches a hermetically sealed laser system including a carbon drain (i.e. activated carbon, col. 2 line 36) and a moisture trap (i.e. water immobilizer, col. 2 lines 24-25). It would have been obvious to one skilled in the art to include such elements so that water and organics that may degrade the laser may be removed, as taught by Bartholomew.

Claims 6, 11 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian and Missey as applied to the claims above, and further in view of Lunt (US 6,215,802). Zorabedian and Missey teach the limitations of the above claims, but do not teach a grid generator located in the optical path within the cavity. Lunt teaches a grid etalon, i.e. a grid generator, that may be placed in a laser system (col. 1 line 41 – col. 2 line 20). It would have been obvious to one skilled in the art to use the grid generator of Lunt because this will accomplish the multiplexing and demultiplexing of signals in telecommunication devices and will meet the standards of the ITU, as taught by Lunt.

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Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zorabedian, Missey, and Aikiyo as applied to the above claims, and further in view of Lunt. The limitations of the parent claims are taught as above, but there is not taught a grid generator located in the optical path within the cavity. Lunt teaches this with motivation as in the rejection of claims 6, 11 and 29 above.

Response to Arguments

Applicant's arguments filed 11/9/2005 ("Response") have been fully considered but they are not wholly persuasive.

- Double patenting rejection based on Hopkins

Applicant first argues against the obviousness-type double patenting rejection based on Hopkins in view of Missey. Response at 8-9. Applicant argues that Hopkins does not claim a tuning etalon because the term "thin film interference means" does not invoke 35 U.S.C. 112, sixth paragraph.

A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph, if: the claim limitations must use the phrase "means for;" the "means for" must be modified by functional language; and the phrase "means for" must not be modified by sufficient structure, material or acts for achieving the specified function. MPEP 2181. Here, the first two prongs are clearly met: the term includes "means . . . for selecting a laser output wavelength." However, the examiner agrees that the "tapered thin film interference filter means" provides sufficient

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structure for selecting the laser wavelength, therefore 112 sixth paragraph cannot be applied. The rejection is withdrawn.

- Double patenting rejections based on Sell

Applicant next argues against the obviousness-type double patenting rejection based on Sell in view of Missey. Response at 9-10. Applicant apparently does not disagree with the examiner's invocation of section 112 par. 6 in this rejection. Applicant merely disagrees that Missey teaches magnetic coupling and magnetic elements. This is not persuasive; Missey teaches these features as shown in the above rejections. To the extent applicable to Missey's teachings, the examiner additionally incorporates by reference the response to arguments made in the prior response. See Office Action mailed 5/5/2005.

- 35 U.S.C. 103 rejections

Applicant next argues against the 35 U.S.C. 103 rejections. Applicant states the requirements for making a prima facie case of obviousness, then traverses the rejections. Response at 10. The examiner believes that a proper prima facie case has been made, and that the rejections speak for themselves. With applicant's lack of rebuttal arguments, nothing more must be said. To the extent applicable, the examiner additionally incorporates by reference the response to arguments made in the prior response. See Office Action mailed 5/5/2005.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James Menefee
November 15, 2005